TRANSVENOUS EXTRACTION OF CHRONIC PACEMAKER LEADS

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Intravascular countertraction, defined as the direct force of traction on the lead countered by the diameter of an extraction sheath, was used to extract 222 leads from 123 patients. Initial indications for lead extraction were life-threatening septicemia (39 pts) and complications of free-floating leads (3 pts). With experience, indications were expanded to include abandonment of pockets (46 pts) and replacement of malfunctioning leads (38 pts). Required tools (Cook Pacemaker Co.) included: long flexible plastic sheaths for dilation of scar tissue and countertraction, transvenous maneuvering catheters and wire basket snares. The catheters and snares were positioned inside the flexible sheaths during transfemoral extractions. A subclavian approach was used to extract 64% of the leads by advancing the sheaths over the leads to the myocardial wall and applying countertraction. A femoral approach was used on the remaining leads. A deflection catheter was used to grasp and maneuver the lead into position for the basket snare. The lead was entangled in the snare and the sheaths advanced over the snare and lead to the myocardium. An atriotomy via a limited surgical approach was required to free one lead. One infected lead broke 5cm from the electrode and required a median sternotomy and ventriculotomy for retrograde extraction. All patients had unremarkable recoveries. Intravascular countertraction techniques proved to be a superior alternative by minimizing the risks and morbidity.

SENSITIZATION TO OKT3: INCREASED FREQUENCY WITH PROLONGED ADMINISTRATION

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While OKT3 monoclonal antibody is effective in the treatment and prevention of cardiac allograft rejection, the development of sensitization (S) with human anti-mouse antibody (HAMA) may limit its use. To assess whether the frequency of S correlated with duration of therapy, 20 consecutive cardiac transplant recipients were randomized to receive either 21 day (N=9) or 14 day (N=11) OKT3 prophylaxis with similar cyclosporine, azathioprine, and prednisone treatment. Peripheral blood lymphocyte phenotypes (CD2, CD3, CD4, and CD8) were monitored daily during OKT3 administration. ELISA and the more sensitive competitive binding assay (CBA) were used to detect HAMA. While age, sex, cardiac diagnoses, hemodynamics, and HAMA measured by ELISA (33% 21d vs 9% 14d, p=0.17) were similar, CBA detected HAMA in 86% (6/7) of 21d and 33% (3/9) of 14d (p=0.036). The development of HAMA with subsequent rise in CD3+ peripheral blood lymphocytes prompted premature discontinuation of OKT3 in 3/9 of 21d and none of 14d. Recipient survival, rejection and infection frequency, and corticosteroid requirements were similar.
CONCLUSION: Prolonged OKT3 administration predisposes to sensitization and may limit duration of effective therapy.

Tuesday, March 20, 1990
8:30AM–10:00AM, Room 16
Immunosuppressive Strategies

SAFETY AND EFFICACY OF INTRAOPERATIVE VS POSTOPERATIVE ADMINISTRATION OF OKT3 IN ORTHOTOPIC CARDIAC TRANSPLANTATION

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In cardiac transplantation (CTx) prophylactic use of murine monoclonal anti-CD3 antibody (OKT3) may be more efficacious when administered prior to exposure of the recipient immune system to donor antigen because of its ability to block antigen recognition. However, concern over side effects has delayed use until hemodynamic stability is achieved. To assess the safety and efficacy of intraoperative use of OKT3, patients were randomized at CTx to 14 daily doses of OKT3 (10mg first dose, 5mg thereafter) beginning during surgery (IntraOp, n=17) or 24-48° postoperatively (PostOp, n=24).

		% patients with adverse reactions to OKT3				
Group	n	fever	rigor	ARDS	↓pressors	shock
IntraOp	17	59	18	0	12	0
PostOp	24	83	42	8	38	25
p value		.08	.10	.22	.07	.03

In the PostOp group, six patients did not complete therapy with OKT3 due to either death from rejection on the 8th postoperative day (1), ARDS (2), falling levels of OKT3 (1), or severe mental status changes associated with aseptic meningitis (2). Rejection incidence in the first 90 days after CTx was:

		Average # of Rejections/patient	
Group	n	all episodes	mod-severe
IntraOp	16	1.0±.2	.3±.1
PostOp	12	1.3±.2	.9±.2
p value		.14	.005

Conclusion: Intraoperative administration of OKT3 is feasible in cardiac transplantation; severe adverse reactions are less common and the frequency of significant rejection episodes in the early posttransplant period is decreased.

SAFE WITHDRAWAL OF STEROIDS WITHOUT USE OF INDUCTION THERAPY IN CARDIAC TRANSPLANTATION

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Several groups have reported the seemingly beneficial ability to wean pts totally from steroids after cardiac transplantation (CTx), but only in pts who were treated with antilymphocyte sera (ALS), or induction therapy, perioperatively. We report the safe withdrawal of steroids without the use of induction therapy. Twenty pts, who were an average of 21±14 months (range=6-26 months) post CTx , underwent a protocol tapering of oral prednisone (Pred). The average dose of Pred at initiation of the withdrawal was 0.07 mg/kg/day, or 5 mg/day, and this was reduced by 2.5 mg. every other day, every 2 weeks, until off. Ten pts (Gp 1) were randomized to receive methotrexate (MTx) 5 mg/d x 2 d/wk beginning at cessation of Pred and 10 pts (Gp 2) received no MTx. Biopsies were performed at weeks 4 and 8 of taper and weeks 4, 8, 12, 18, 24 after discontinuation. Ten pts had one rejection prior to Pred taper (6 in Gp 1, 4 in Gp 2), and twelve pts were free of rejection. After an average of 9.1 months of follow-up (range=6-11 months), eighty percent of pts were weaned off Pred and experienced no rejection. Three pts had one rejection, 2 in Gp 2 and 1 in Gp 1. All 3 were returned to Pred with no subsequent rejection. Several parameters thought to be benefitted by withdrawal of steroids including plasma lipid levels, blood pressure, and weight were measured and found not to improve at 6 month follow-up. Steroids can be withdrawn safely in pts at least 6 months post CTx without use of ALS, but the long term impact may be limited in patients already receiving a low dose of Pred at the time of taper.